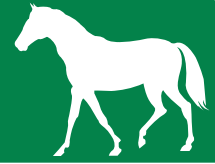


# Equine Granulocytic Ehrlichiosis (formerly Anaplasmosis) Disease Brief



## Etiology

Equine Granulocytic Ehrlichiosis (EGE), also called Potomac Horse Fever, is caused by the rickettsial agent *Anaplasma phagocytophila*. The organism is an obligate intracellular gram-negative bacterium that replicates in the cytoplasmic vacuoles of host cells, particularly granulocytes and monocytes, to form microcolonies called morulae.

## Species affected

*A. phagocytophila* has a wide host range; naturally occurring infections have been recorded in horses, burros, dogs, llamas, and rodents. Humans have also been found to be susceptible to *A. phagocytophila* infections.

## Geographic distribution

*A. phagocytophila* frequently infects horses in the foothills of northern California. Other states with confirmed clinical infections include Arkansas, Colorado, Connecticut, Florida, Illinois, Minnesota, Pennsylvania, and Washington. Cases have also been confirmed in British Columbia, Great Britain, South America, and Sweden.

## Transmission

EGE is a blood-borne infection transmitted by bites from ticks in the family Ixodidae. Infections can also be transmitted by blood transfusions in humans. Mechanical transmission by biting insects has been suggested as a possible means of spread.

## Incubation period

The incubation period is 1-14 days in horses and 7-10 days in humans.

## Clinical signs

Severity of signs varies with age of the animal and duration of the illness, becoming more severe over several days.

Horses: Less than a year old, fever may be the only clinical sign. One to three year olds develop fever, depression, mild limb edema, and ataxia. Adults exhibit the characteristic signs of fever, partial anorexia, depression, reluctance to move, limb edema, petechiation, and icterus.

## Zoonotic potential

*Anaplasma phagocytophilum* is zoonotic and causes human granulocytic ehrlichiosis (HGE). HGE is a generalized disease ranging from mild nonspecific symptoms to severe and possibly fatal hematological disorders. Gastrointestinal signs are common and may be combined with photophobia, conjunctivitis, joint pain, coughing, and confusion.

## Diagnosis

The initial diagnosis is usually based on the history, clinical signs, hematologic abnormalities, and changes in serum chemistry. Definitive diagnosis is by demonstration of the characteristic cytoplasmic inclusion bodies in a standard blood smear and serology.

## Prevention and control

Horses that live in areas with *Ixodes* tick populations should be checked frequently for ticks. If found, ticks should be promptly removed with gloved hands. Human tick bites should be thoroughly disinfected after removal of the tick, and hands should be washed with soap and water. It is important to control tick populations in horse habitats to prevent infection.

## Sources

- Center for Food Security and Public Health, Iowa State University Ehrlichiosis fact sheet <http://www.cfsph.iastate.edu/Factsheets/pdfs/ehrlichiosis.pdf>
- Merck Veterinary Manual <http://www.merckvetmanual.com/mvm/index.jsp?cfile=htm/bc/52700.htm>
- Franzen P. et al. Death of a horse infected experimentally with *Anaplasma phagocytophilum*. The Veterinary Record. 27 January 2007. <http://veterinaryrecord.bvapublications.com.proxy.lib.iastate.edu:2048/cgi/reprint/160/4/122?view=long&pmid=17259454>